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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,514	09/10/2003	Frank Tuccio	1016-013P/JAB	3616

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EXAMINER	
MEHRPOUR, NAGHMEH	
ART UNIT	**PAPER NUMBER**
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/659,514	TUCCIO, FRANK	
	Examiner	Art Unit	
	Naghmeh Mehrpour	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *16 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed reference listed in the information Disclosure Submitted on 10/31/06 have been considered by the examiner (see attached PTO-1449

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-13**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Harney (US Patent 5,579,124) in view of Peiffer et al. (US publication 2004/0210922 A1).

Regarding claims 1, 7, Harney teaches an apparatus for the remote monitoring of audio signals, comprising:

a portable transponder to **transmit an identification signal, the portable transponder powered by a polling signal** (col 1 lines 40-65, col 2 lines 21-67, col 3 lines 1-61). Herney fails to teach a fixed receiver for detecting an audio signal present in

a monitored region and determining an identity of the audio signal detected, **for transmitting the polling signal to the portable transponder**, for determining an identity of the portable receiver **from the identification signal** when the receiver is present in the monitored region, and for associating the identity of the receiver with the identity of the audio signal detected over a dwell time of the transponder in the monitored region. However, Peiffer teaches a fixed receiver for detecting an audio signal present in a monitored region and determining an identity of the audio signal detected, for determining an identity of the portable receiver when the receiver is present in the monitored region, and for associating the identity of the receiver with the identity of the audio signal detected over a dwell time of the transponder in the monitored region (0034-0039). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Peiffer with Harney, in order to process received digital audio signals, transmitted through a wide variety of media, to ensure accurate recognition.

Regarding claims 2, 9, Harney inherently teaches an apparatus/system wherein the transponder is a transponder carried by an individual (col 1 lines 40-67, col 2 lines 1-7).

Regarding claims 3, 10, Harney does not mention an apparatus/system wherein the fixed receiver includes a microphone circuit for detecting the audio signal. However, Peiffer teaches an apparatus/system wherein the fixed receiver includes a microphone

circuit for detecting the audio signal (0048). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Peiffer with Harney, in order to process received digital audio signals, transmitted through a wide variety of media, to ensure accurate recognition.

Regarding claim 4, Harney an apparatus of claim 1, wherein the fixed receiver includes means for storing the association between the identities of the receiver and audio signal (col 1 lines 40-65).

Regarding claims 5, 12, Harney teaches an apparatus wherein the audio signal is the audio portion of a received radio or television broadcast (col 1 lines 40-67, col 2 lines 1-20).

Regarding claim 6, Harney teaches a method for the remote monitoring of audio signals, comprising the steps of:

monitoring a designated region for the presence of an audio signal the transponder powered by a polling signal (col 2 lines 21-67, col 3 lines 1-66). Henry fails to teach processing an audio signal to determine its identity;

monitoring the region for the presence of a transponder;

receiving an identification signal from the transponder, the transponder transmitting the identification signal in response to receiving the polling signal;

identifying the transponder and its dwell time within the region and the identity of the audio signal, and the dwell time in the region; and

generating a record correlating the transponder, its dwell time, and the identity of the audio signal. However Peiffer teaches processing an audio signal to determine its identity;

simultaneously monitoring the region for the presence of a transponder;

receiving an identification signal from the transponder, the transponder transmitting the identification signal in response to receiving the polling signal (0034-0039);

identifying the transponder and its dwell time within the region and the identity of the audio signal, and the dwell time in the region (0034-0041); and

generating a record correlating the transponder, its dwell time, and the identity of the audio signal (0015-0019, 0034-0041). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Peiffer with Harney, in order to process received digital audio signals, transmitted through a wide variety of media, to ensure accurate recognition.

Regarding claim 8, Harney teaches an apparatus wherein at least the means for detecting an audio signal and determining an identity is at a fixed location (col 2 lines 7-67, col 3 lines 1-8).

Regarding claim 11, Harney fails to teach an apparatus of claim 8, further including means for storing the record at the fixed location. However Peiffer teaches an apparatus of claim 8, further including means for storing the record at the fixed location (0018, 0019). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Peiffer with Harney, in order to process received digital audio signals, transmitted through a wide variety of media, to ensure accurate recognition.

Regarding claim 13, Harney fails to teach an apparatus of claim 7 comprising means associated with the means for determining the identity of the transponder for causing the transponder to emit an identification signal only when in the monitored region. However Peiffer teaches an apparatus of claim 7 comprising means associated with the means for determining the identity of the transponder for causing the transponder to emit an identification signal only when in the monitored region (0018-0019). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Peiffer with Harney, in order to process received digital audio signals, transmitted through a wide variety of media, to ensure accurate recognition.

Response to Arguments

3. Applicant's arguments filed 10/16/06 have been fully considered but they are not persuasive.

In response to the applicant's argument that "*Neither Harney nor Peiffer includes a portable transponder to transmit an identification signal, the portable transponder powered by a polling signal, and fixed receiver or a means for transmitting the polling signal to the portable transponder.*"

The Examiner asserts that Harney teaches In FIG. 1 the top diagram shows the vertical blanking interval of a conventional TV signal which normally consists of 21 horizontal lines. The lower diagram shows the conventional TV signal with the start signal added. As shown, there is no use of the vertical blanking interval during the first three horizontal lines. The next three horizontal lines are utilized by the vertical sync pulse. Following the vertical sync pulse for a period of 10 horizontal lines, the video output will be held near the reference white level. The absence of the horizontal sync pulses for a period of 10 horizontal lines is the effective start signal or interrogation signal to initiate the reply of all of the transponders . The replies of the various transponders will be in accordance with the arrangement of FIG. 2. The counter start signal, which is the absence of horizontal sync for at least 10 horizontal lines, is indicated at 6. Following the counter start signal are a plurality of vertical sync pulses indicated at 8. In the intervals between the vertical sync pulses, which are in effect clock pusles determining the periods of reply, groups of transponders will send replies back to the distribution center. There may be a binary system for coding the various **transponders**. Again, there may be 100 transponders, as an example, replying during each of the periods. All of the transponders having the code 1 0 would reply during the first period, transponders having the code 1 would reply during the second period, etc.

Thus, in a one-minute period and assuming 100 transponders replying during the interval between vertical sync pulses, 360,000 subscribers can be interrogated. In FIG. 3 the input cable from the distribution system is indicated at 10 and is connected to a cable television converter 12. The converter accepts a multiplicity of TV channel signals at its input and selectively converts them to a single TV channel at the output. A selector knob on the converter selects the incoming channel to be viewed and the converter output is always the same frequency, for instance TV Channel 3. The output of the converter 12 goes to the TV set 14. The transponder is indicated at 16. There is an on-off switch 18 which is the power switch for the converter and is used to effect a transponder bypass during periods when the converter is not used so that even though a particular TV set is not operating, the transponder may still be interrogated, for example as a system check. Switch 18 may also be ganged to the converter channel selector, so that audience **polling** is only possible on certain predetermined channels. The output of the converter 12 is connected through the switch 18 to a tuned radio frequency receiver 20 which is tuned to the output channel of the converter. Use of a T.R.F. receiver is advantageous, since it has no local oscillator, thus avoiding any possible interference with the TV signal. One output from the receiver 20 goes to an automatic gain control 22 with the AGC having an output going back to the receiver 20. Thus, the output from the receiver 20 has a constant level. The output of the receiver 20 is connected to a horizontal sync integrator 24 and to a vertical sync separator 26. A local vertical blanking pulse generator 28 is connected to the vertical sync separator

26. A pair of "and" gates are indicated at 30 and 32. "And" gate 30 receives an input from the horizontal sync integrator 24 and from the local vertical blanking pulse generator 28. "And" gate 32 receives an input from the horizontal sync integrator 24 and also from the local vertical blanking pulse generator 28. A counter input gate is indicated at 34 and a 10-second gate is indicated at 36. The 10-second gate 36 is connected to gate 32 with the counter input gate 34 being connected to gate 30. A counter kill and reset circuit is indicated at 38 and receives inputs from 10-second gate 36, the AGC 22 and from an "and" gate 40. The output from the counter kill and reset circuit 38 goes to a counter 42, as does the output from gate 34. The output from the counter 42 goes to "and" gate 40. "And" gate 40 in turn is connected to a pulse train modulator 44 controlled by a modulator control 46 with the output from the pulse train modulator 44 going to an RF reply pulse generator 48. The RF reply pulse generator 48 in turn is connected to the cable 10 so as to send a reply back to the distrubution center. In operation, as indicated above, the start signal is preferably the absence of horizontal sync pulses for a period of 10 horizontal lines. The horizontal sync integrator 24 normally stretches a horizontal sync pulse so that it maintains its level during the period of each horizontal line. An absence of signal for a period of at least five horizontal lines causes a decay in the integrator level which provides an output from integrator 24 to gate 30. The vertical sync pulses, which are part of the TV signal, are used to control the operation of the local vertical blanking pulse generator 28. The local blanking pulse generator 28 has an output pulse width of about 15 horizontal

lines, and is triggered by the received vertical sync pulse. The simultaneous presence of an output from the pulse generator 28 and a signal from the horizontal sync integrator 24 will cause "and" gate 30 to send an "on" signal to the counter input gate 34. Thus, the clock pulses from the local pulse generator 28 can then be directed through gate 34 to the counter 42. The pulses will be counted in counter 42 and after a predetermined number have been received, which number will be set in accordance with the period of response of the particular transponder, "and" gate 40 will cause the pulse train modulator 44, controlled by the modulator control 46, to provide a reply pulse from the generator 48. At the same time as "and" gate 40 causes the reply signal to be sent back to the distribution center, it will initiate operation of the reset circuit 38 which will turn the counter off. Thus, after a predetermined number of clock pulses have been received by the counter, following a start signal, a reply will go back to the distribution center indicating the particular condition of the transponder. For example, if a particular program is being watched by the subscriber and the interrogation was on that channel, the reply would be to the effect that the subscriber was watching the programming on a particular channel. To avoid the possibility of reply during a fluctuating or low level signal, the reset circuit 38 will be operated any time the incoming signal level falls below a predetermined point, as determined by the automatic gain control circuit 22.

Peiffer teaches a tuned program signal is to extract a characteristic feature, or signature, from **the signal at both a statistically selected tuning site and at one or more monitoring sites arranged so as to monitor all broadcast signals that can**

be received at the tuning site. The candidate signature from the tuning site can then be compared to reference signatures from the monitoring site or sites in order to identify the tuned program by matching the signatures. Correspondingly, the broadcast of repeated program elements can be identified by comparing candidate signatures from a monitoring site with a library of reference signatures. **Extracts the candidate signature after decompressing a compressed digital audio signal, or from original uncompressed digital signal. The well-defined data formats used for the transmission of digital signals facilitates the identification of broadcast programs by comparing signatures. One way to compare signatures is to extract a predetermined field from a frame 10 of a digital audio signal at both a measurement site (tuning site and/or monitoring site) and a reference site. The comparison of signatures extracted from analog signals usually requires circuitry or signal processing for handling both (i) temporal errors or drifts, and (ii) changes in the magnitudes of the signals acquired at two different locations. In the case of digital signals, however, the recognition or matching process is considerably simpler.** In reading a predetermined portion of the signal frame, in extracting a signature from a decompressed or non compressed audio signal. The labels, if found, and the predetermined portion of the signal frame and the signature are associated with the local time when the frame was read in order to generate a time-stamped tuning record for each frame of digital audio signal that is received. In FIG. 2, a tuning or verification site 36 comprises a receiver 34, a tuning measurement apparatus 48, a clock or timing device 38, and a storage and forwarding apparatus 52.

The tuning measurement apparatus 48 receives a digital audio signal output by a consumer's receiving hardware 34 at an industry-standard SP/DIF connector 50. The tuning measurement apparatus 48 decodes the signal to read a program-identifying label, if any, and to collect a predetermined portion of each signal frame for signature analysis (to be described below). The tuning measurement apparatus 48, the clock or timing device 38, and the storage and forwarding apparatus 52 (FIG. 2) may be embodied in a single computer, or in a plurality of processors, or in hard-wired circuitry. These circuits may also be incorporated into the dwelling. Therefore, by combing the above teaching of Peiffer with Harney, in order to process received digital audio signals, transmitted through a wide variety of media, to ensure accurate recognition.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 5571-272-791313. The examiner can normally be reached on 8:00 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

December 27, 2006